Viking Installation Guide

Viking Range Corporation

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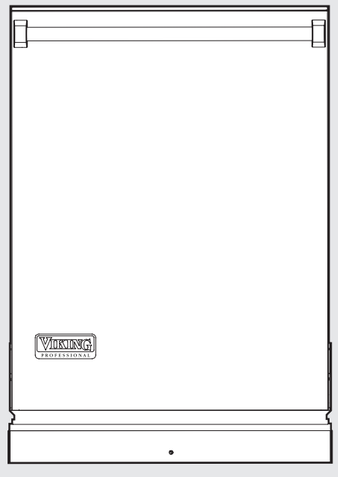
or visit the Viking Web site at

vikingrange.com



301/451 Series
Built-In Dishwashers

F20880C EN

(022213)

Table of Contents

Warnings & Important Information ____ 3
Dimensions & Cutout Dimensions ____ 6
Specifications ____ 7
Custom Door Panel Specifications ____ 8
Custom Door Panel Installation Option ____ 9
General Information ____ 11
- Site Preparation ____ 11
- Water Supply ____ 11
- Drain ____ 11

Electrical Connections ____ 12
- Hardwire Conduit Option (301 Models) ____ 13
- Hardwire Conduit Option (451 Models) ____ 13
- Trim Installation Options (451 Models) ____ 16
- Counter Balance Spring Adjustment (If Necessary) ____ 17

Installation ____ 18
Performance Checklist ____ 22
- Testing for Leaks ____ 22
- Final Preparation ____ 22

Service & Registration ____ 23

IMPORTANT– Please Read and Follow

- Before beginning–please read these instructions completely and carefully.
- **DO NOT** remove permanently affixed labels, warnings, or rating plates from the dishwasher. This may void warranty or create an unsafe product.
- Please observe all national and local codes.

⚠ WARNING

Make sure that incoming voltage is the same as unit rating. An electric rating plate specifying voltage, hertz, and amps is attached to the product. Wiring the dishwasher with more voltage than it is rated for may cause severe damage. To reduce the risk of fire, electric shock, or injury to persons, installation work and electrical wiring must be done by qualified technician in accordance with all applicable codes and standards, including fire-rated conditions.

⚠ WARNING

Electrical power must be turned off at circuit breaker or fuse box before making electrical connections. Disconnect the electrical power supply and place a tag at the disconnect switch indicating that you are working on the circuit.

- Please ensure that this product is properly grounded.
- The installer should leave these instructions with the consumer who should retain for local inspector's use and for future reference.
- The dishwasher has a factory installed backflow preventer. Do not add an additional check valve.
- Failure to provide a 20" above floor level (50.8 cm) high loop may result in improper operation of the dishwasher.
- Remove pallet screws from base. Damage could occur to dishwasher if screws are not removed.

⚠ WARNING

Plumbing connections must comply with applicable sanitary, safety and plumbing codes.

⚠ WARNING

The dishwasher door may not stay open by itself until the door panel is installed. Be aware of this when fastening the dishwasher to the cabinet.

Site Preparation It is recommended that a thorough site inspection be conducted PRIOR to unpacking and moving this appliance.

WARNING

State of California Proposition 65 Warning

- This product contains one or more chemicals known to the State of California to cause cancer.
- This product contains one or more chemicals known to the State of California to cause birth defects or other reproductive harm.

IMPORTANT–Please Read and Follow!

⚠ WARNING

ELECTRICAL SHOCK HAZARD
- Electrically ground dishwasher.
- Connect ground wire to green ground connector in terminal box.
- DO NOT use an extension cord.
- Failure to follow these instructions, can result in death, fire or electrical shock.

⚠ WARNING

TIP OVER HAZARD
- DO NOT use dishwasher until completely installed.
- DO NOT push down on open door.
- Doing so can result in serious injury or cuts.

⚠ WARNING

EXCESSIVE WEIGHT HAZARD

Use two or more people to move and install dishwasher. Failure to do so can result in back or other injury.

⚠ WARNING

Plumbing connections must comply with applicable sanitary, safety, and plumbing codes.

⚠ CAUTION

The dishwasher has a factory installed backflow preventer. Do Not add an additional check valve.

⚠ WARNING

Disconnect the electrical power supply and place a tag at the disconnect switch indicating that you are working on the circuit.

⚠ WARNING

Be sure electrical power is turned off at circuit breaker or fuse box before servicing or installing unit. Do not use an extension cord for this appliance.

⚠ WARNING

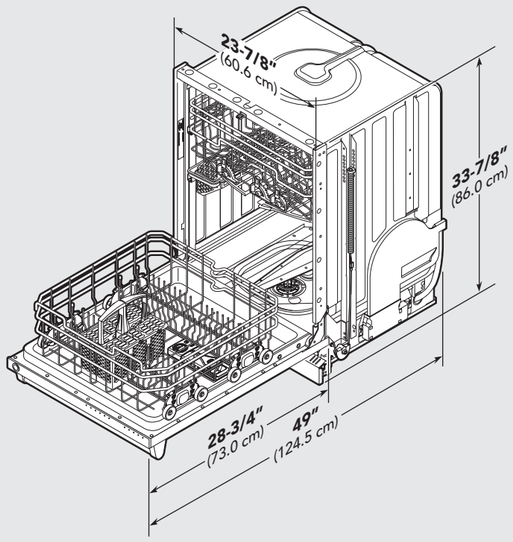
Improper connection of the equipment – grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the appliance is properly grounded. Do not modify the plug provided with the appliance; if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

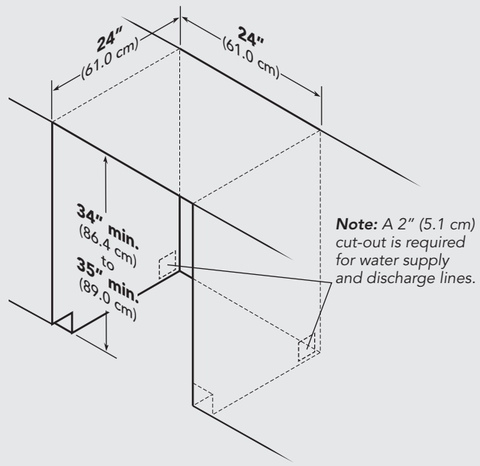
IMPORTANT– Please Read and Follow

A GFI shall be used if required by NFPA-70 (National Electric Code), federal/state/local laws, or local ordinances.
- The required use of a GFI is normally related to the location of a receptacle with respect to any significant sources of water or moisture.
- Viking Range Corporation will NOT warranty any problems resulting from GFI outlets which are not installed properly or do not meet the requirements below.

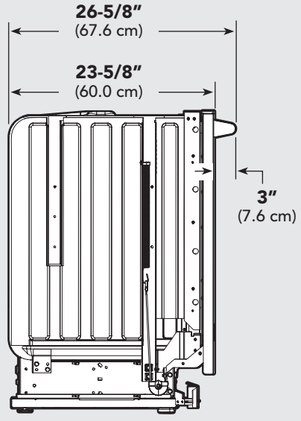
If the use of a GFI is required, it should be:
- Of the receptacle type (breaker type or portable type NOT recommended)
- Used with permanent wiring only (temporary or portable wiring NOT recommended)
- On a dedicated circuit (no other receptacles, switches or loads in the circuit)
- Connected to a standard breaker of appropriate size (GFI breaker of the same size NOT recommended)
- Rated for Class A (5 mA +/- 1 mA trip current) as per UL 943 standard
- In good condition and free from any loose-fitting gaskets (if applicable in outdoor situations)
- Protected from moisture (water, steam, high humidity) as much as reasonably possible

Dimensions & Cutout Dimensions

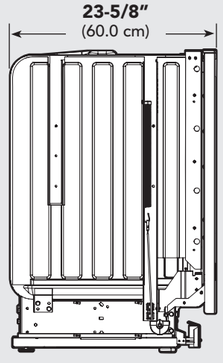




Professional



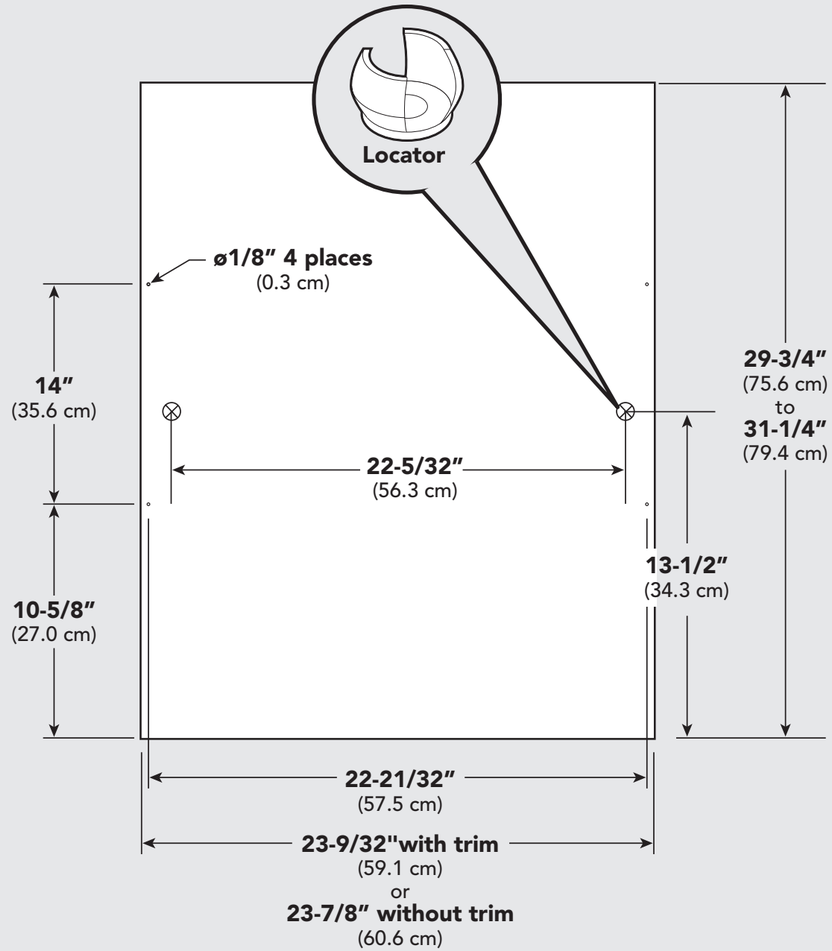
Custom Panel



Specifications

Built-In Dishwasher		
Description	**301 Models**	**451 Models**
Overall width	23-7/8" (60.6 cm)	
Overall height from floor	33-7/8" (86.0 cm) min. to 35" (89.0 cm) max.	
Overall depth from rear	To edge of side – 23-5/8" (60.0 cm) – includes door panel With door open – 49" (124.5 cm)	
Cutout width	24" (61.0 cm)	
Cutout height	34" (86.4 cm) min. to 35" (89.0 cm) max.	
Cutout depth	24" (61.0 cm)	
Electrical requirements	15.0 amps, 120VAC/60 Hz; 3'9" (1.1 m) electrical cord 3 prong plug supplied with unit.	
Water-heating element rating	1200 watts	
Inlet water temperature	120°F (49°C) required	120°F (49°C) recommended; Dishwasher will perform properly with cold water. ***Note:*** *Cycle times will vary.*
Inlet water pressure operating range	10 to 125 psi (0.69 to 8.62 bar)	
Inlet water hose	5' (1.5 m) braided stainless steel water line with 3/8" (0.95 cm) compression fitting connected to dishwasher	
Drain hose	7' (2.13 m) 1/2" (1.3 cm) ID "crimp-proof" flexible drain hose attached to dishwasher, connections provided for 5/8" (1.6 cm), 3/4" (1.9 cm) or 1" (2.5 cm), cut as required	
Drain hose high loop required	Height from floor – 20" (51.0 cm) min.	
Approximate shipping weight	152 lbs. (68.9 kg)	157 lbs. (71.2 kg)

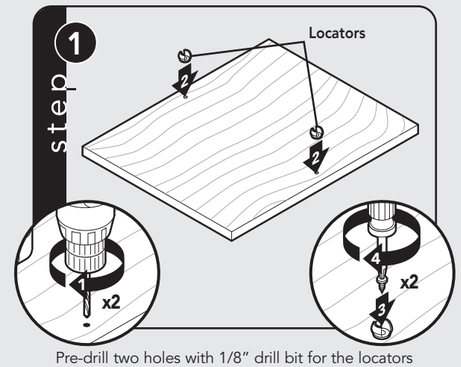
Custom Door Panel
(Specifications for FDB451 Models)



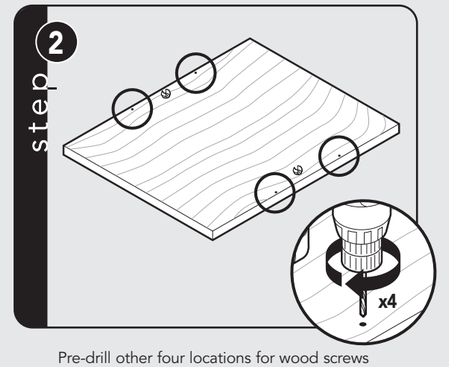
Note: *Back side of panel shown. Use caution not to drill through front of panel.*
Note: *If panels are made longer than 29-3/4" (75.6 cm), the door panel will be taller than dishwasher control panel.*
Note: *All hole location dimmensions should be measured from the bottom of the door per the illustration above.*

Custom Door Panel (Installation Option)

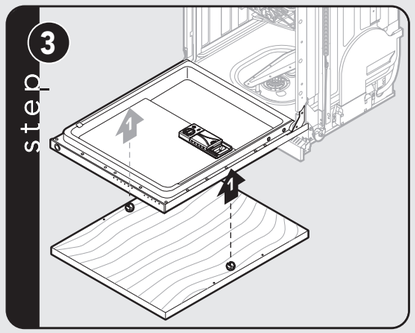
Have the overlay panel constructed per dimensions. The panel thickness **MAY NOT** exceed 3/4" (1.91 cm) for flush installation in most cabinets. Ensure that the design, construction, and installation of the panel overlay and its handle mounting is sufficient to reliably operate in this application with a maximum panel weight of 18 lbs. (8.2 kg.) Custom panels should not exceed 18 lbs. (8.2 kg.)



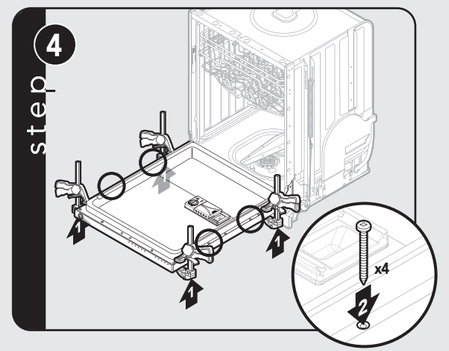
Pre-drill two holes with 1/8" drill bit for the locators using dimensions shown in the figure. Attach plastic locators using the Torx (T20 BIT) pan head screws provided in the hardware package.



Pre-drill other four locations for wood screws to attach the panel to the dishwasher door using the dimensions shown in the figure.

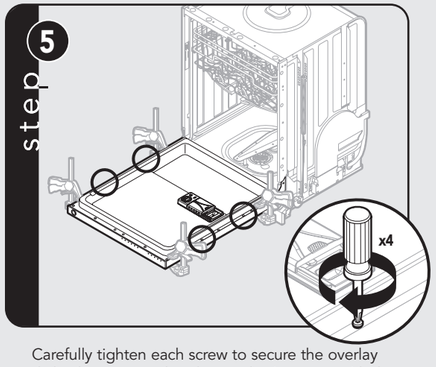


Use locators to align the panel to the dishwasher door holes.



Use non-marring clamps to hold custom panel in place. Use the truss head 1-3/4" long screws provided in the hardware package for the panel attachment.
Note: *If you are using any special panel material and that require special screws, always use a #8 1-3/4" long truss head Torx stainless steel screws. The screws* ***MUST BE*** *stainless steel to avoid corrosion.*

Custom Door Panel (Installation Option, cont.)



Carefully tighten each screw to secure the overlay and check to ensure that the overlay is square with the dishwasher door and cabinet opening and that the panel doesn't interfere with the operation of the dishwasher.

Verify operation of the door counter balance springs after installation of the overlay panel. The additional weight of the overlay panel might require an adjustment to the preload of the counterbalance springs. If adjustment of the springs is required, please refer to the *"Counter Balance Spring"* section.

General Information

- Read these instructions carefully and completely before installing the dishwasher. The installation should be carried out by a qualified installer, who is familiar with all local codes and ordinances for electrical and plumbing connections. If the dishwasher is being installed for the first time, most of the work has to be done before you move it into place. If you are replacing an old dishwasher, you must check the old connections.
- Electrical requirements are listed in the "Specifications" section.

Site Preparation

Note: *It is recommended that a thorough site inspection be conducted PRIOR to unpacking and moving this appliance.*

- **After determining where the water supply line will connect to the dishwasher, provide a 2" (5.1 cm) access hole and run the line to the approximate fill valve location. Sealing access area once lines are in place is recommended.**
- Confirm available access to adequate power.

Water Supply

⚠ WARNING

Plumbing connections must comply with applicable sanitary, safety, and plumbing codes.

- Water pressure for the water supply should be a minimum of 10 to 125 psi. The dishwasher is supplied with a 5' (1.5 m) braided stainless steel water line with 3/8" (0.95 cm) compression fitting connected to dishwasher.
- After determining where the water supply line will connect to the dishwasher, provide a 2" (5.1 cm) access hole and run the water supply line to the approximate fill valve location.
- For service convenience, a shut-off valve (not supplied) should be installed in the supply line in a readily accessible location (such as beneath the sink).
- **It is recommended that the dishwasher be connected to a hot water supply.** Only the 451 model can be connected to the cold water supply. Cycle times will increase.
- It is important that the water supply line and the shut-off valve have a sufficient flow volume. Flush the supply line prior to connecting it to the intake line of the dishwasher.
- Make sure the connection is sealed and not leaking before completing the installation.

Drain

- The access hole for the drain line should be 2" square (5.1 cm). Locate as low and as near to the back wall as possible.
- **DO NOT** use any fittings anywhere in the drain line that are less than 1/2" (1.3 cm) ID.
- If the drain line is going to be connected to a food waste disposer, be sure to remove the knockout or plug from the fitting before connecting drain line.
- Drain connection should be a minimum of 9" (22.9cm) from the floor. If connection is lower, siphoning during cycle can occur.

⚠ CAUTION

The dishwasher has a factory installed backflow preventer. Do Not add an additional check valve.

Note: *The end of the drain hose is 1" (2.5 cm), but is adjustable to 3/4" (1.9 cm) or 5/8" (1.6 cm). If the drain connection is smaller than 1" (2.5 cm), the hose can be cut to fit the connection.*

Note: *Be sure to run the drain line through the hole to the sink compartment before moving the dishwasher into place.*

Electrical Connections

Grounding Instructions

This appliance must be grounded. In the event of a malfunction or breakdown, grounding will reduce the risk of electric shock by providing a path of least resistance for electric current. This appliance is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is installed and grounded in accordance with all local codes and ordinances.

⚠ WARNING

Disconnect the electrical power supply and place a tag at the disconnect switch indicating that you are working on the circuit.

Grounding Instructions if Hardwired:
This appliance must be connected to a grounded metal, permanent wiring system; or an equipment grounding conductor must be run with the circuit conductors and connected to the equipment – grounding terminal or lead on the appliance.

- For a cord connected undercounter dishwasher:
  1. The power supply receptacle for the appliance should be installed in a cabinet or on a wall adjacent to the under counter space in which the appliance is to be installed;
  2. There should be an opening through the partition between the compartments mentioned in Item (1), that is large enough for the attachment plug to pass through. The longest dimension of the opening shall not be more than 1-1/2" (38 mm).
  3. The edges of the opening mentioned in Item (2) should, if the partition is wood, be smooth and rounded or, if the partition is metal, be covered with the grommet provided for this purpose by the manufacturer; and
  4. Care should be exercised, when the appliance is installed or removed to reduce the likelihood of damage to the power supply cord.
- The dishwasher comes with a 3'9" (1.1 m) electrical cord for 110-120 volts, 15/20 amp supply. This cord should be plugged into the 110-120 volt outlet located under the sink.
- If the cord is not long enough or if a hard wire installation is needed, follow the instructions in the "Hardwire" section.

Note: *Access holes should be 2" square (5.1 cm) with no sharp edges.*

- In a hardwire installation, use only copper supply conductors. The conductors should have a minimum temperature rating of 194° F (90° C).

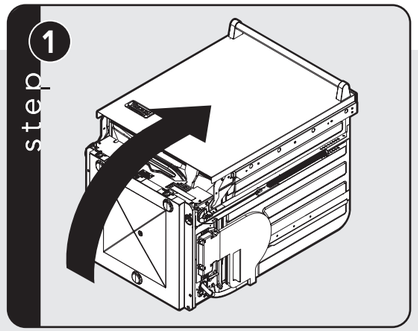
⚠ WARNING

Be sure electrical power is turned off at circuit breaker or fuse box before servicing or installing unit. Do not use an extension cord for this appliance.

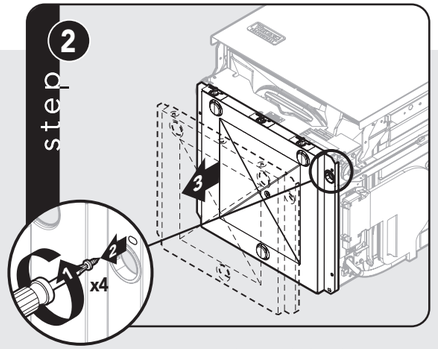
⚠ WARNING

Improper connection of the equipment – grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the appliance is properly grounded. Do not modify the plug provided with the appliance; if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

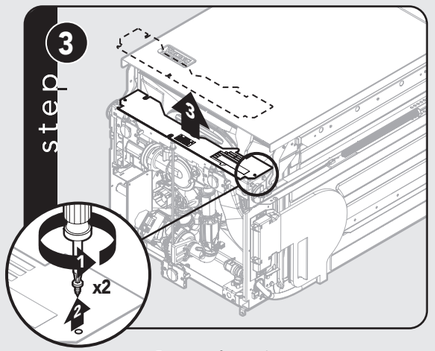
Hardwire Conduit Option (301 Models)



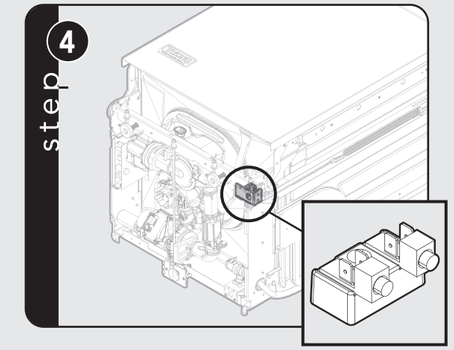
Remove any loose items in the dishwasher and carefully lay the dishwasher on its back. ***Note:*** *Be careful not to pinch hoses or power cord beneath dishwasher.*



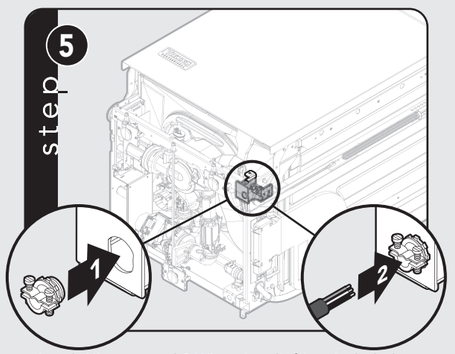
Remove bottom pan. ***Note:*** *Rapid removal of the bottom pan will cause damage to the moisture sensor. For installation and servicing, slowly pull the bottom pan from the unit and disconnect the wire from the moisture sensor, which is located in the center of the pan.*



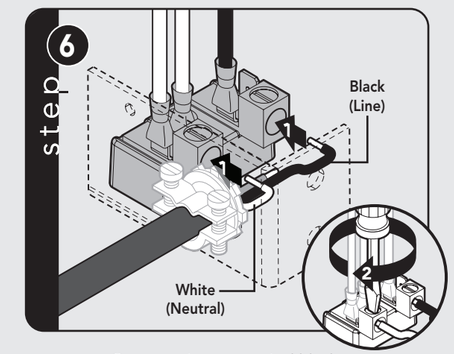
Remove front plate.



Remove factory installed power cable from terminal block.

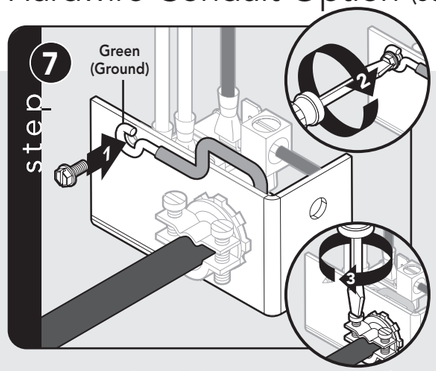


Attach UL approved 3/4" strain relief (not included) to bottom of terminal box. Run wires through strain relief.

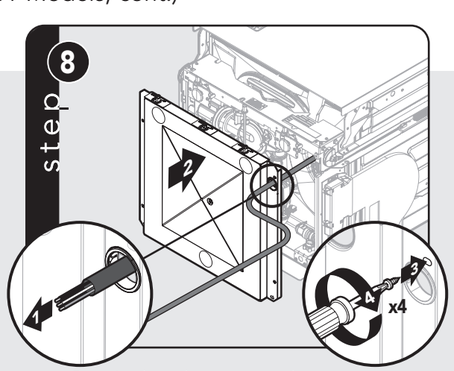


Connect wires to terminal block.

Hardwire Conduit Option (301 Models, cont.)

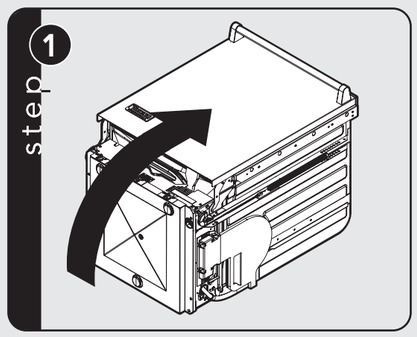


Connect ground wire. Tighten screws on strain relief.
Note: *Reinstall front plate.*

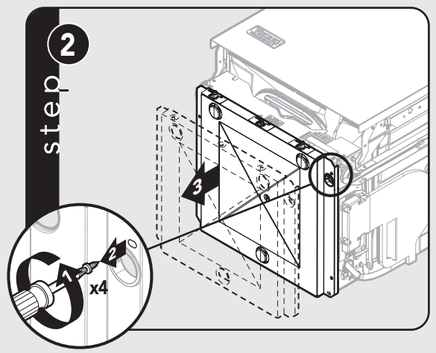


Run wire through grommet on bottom pan.
Replace bottom pan.

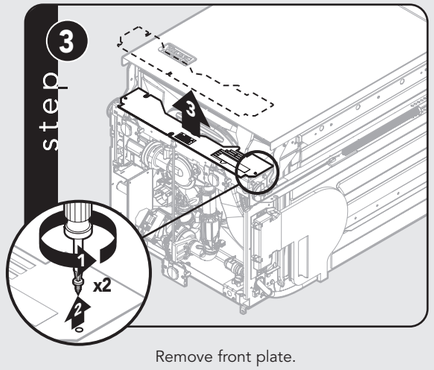
Hardwire Conduit Option (451 Models)



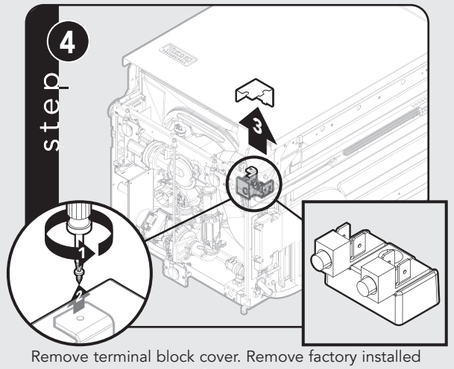
Remove any loose items in the dishwasher and carefully lay the dishwasher on its back. ***Note:*** *Be careful not to pinch hoses or power cord beneath dishwasher.*



Remove bottom pan. ***Note:*** *Rapid removal of the bottom pan will cause damage to the moisture sensor. For installation and servicing, slowly pull the bottom pan from the unit and disconnect the wire from the moisture sensor, which is located in the center of the pan.*

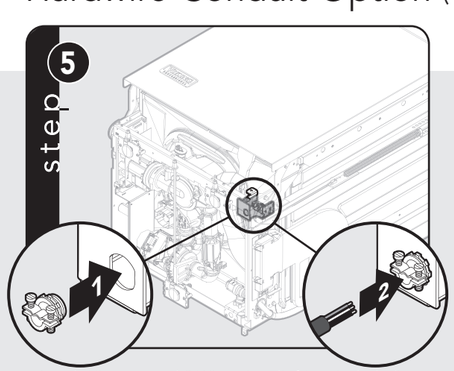


Remove front plate.

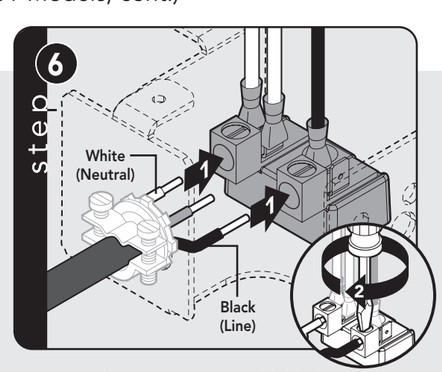


Remove terminal block cover. Remove factory installed power cable from terminal block.

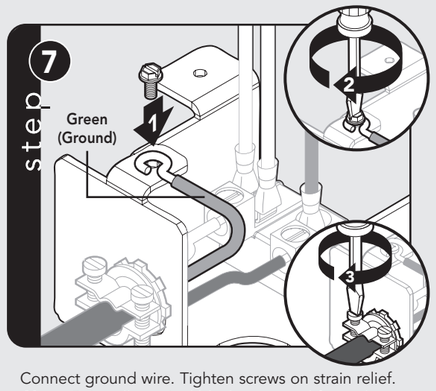
Hardwire Conduit Option (451 Models, cont.)



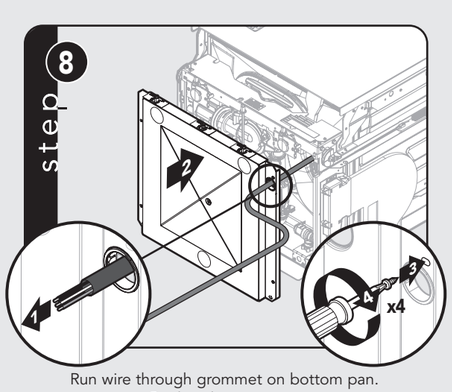
Attach UL approved 3/4" strain relief (not included) to bottom of terminal box. Run wires through strain relief.



Connect wires to terminal block.

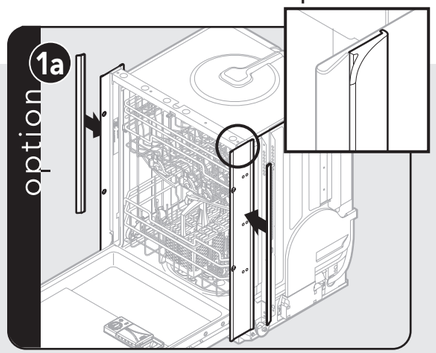


Connect ground wire. Tighten screws on strain relief.
Note: *Reinstall terminal block cover and front plate.*

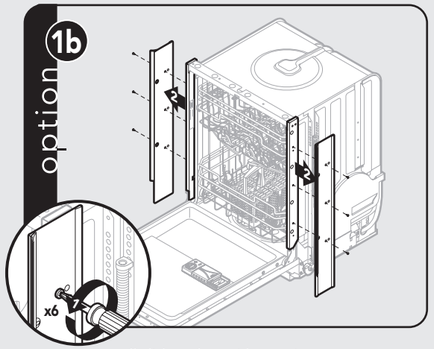


Run wire through grommet on bottom pan.
Replace bottom pan.

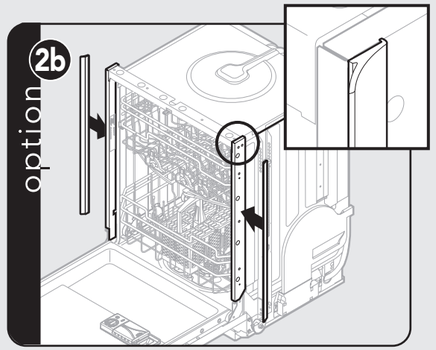
Trim Installation Options (451 Models)



Dishwasher ships with trim installed for flush install. If needed, attach wiper gasket to dishwasher by pulling protective film off adhesive back. Apply behind hemmed edge of side trim.

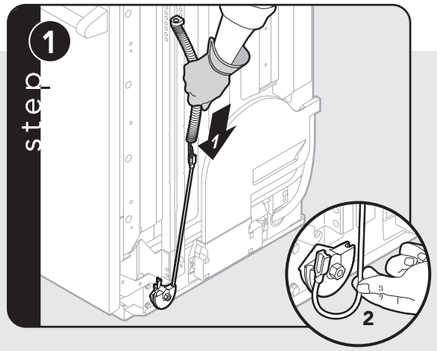


To install dishwasher without trim, remove the 6 screws (3 per side) and remove trim.

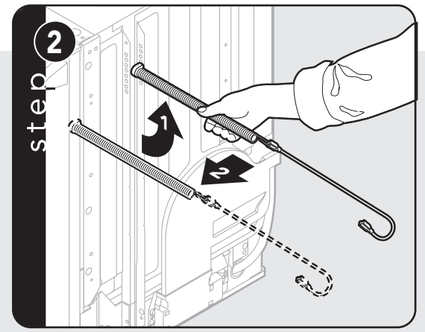


If needed, attach wiper gasket to dishwasher by pulling protective film off adhesive back. Apply to leading edge of dishwasher frame. Trim gasket to fit.

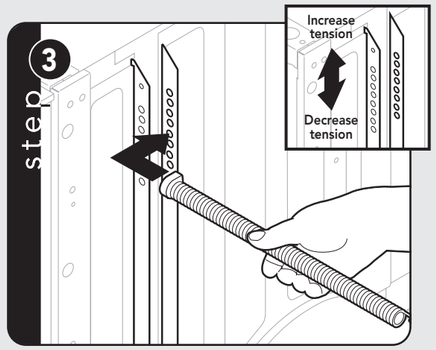
Counter Balance Spring Adjustment (if necessary)



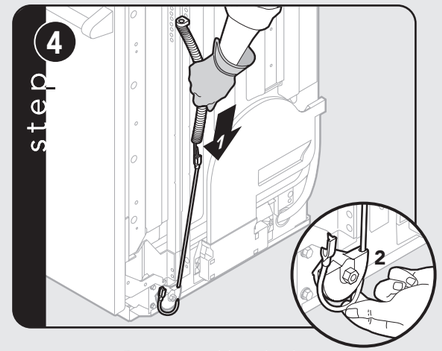
Disconnect cable from hook.



Remove spring from dishwasher.



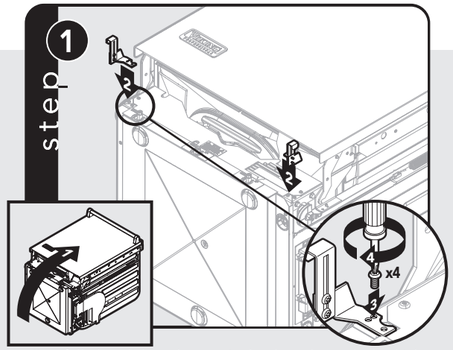
Set counter balance spring connector in appropriate location.



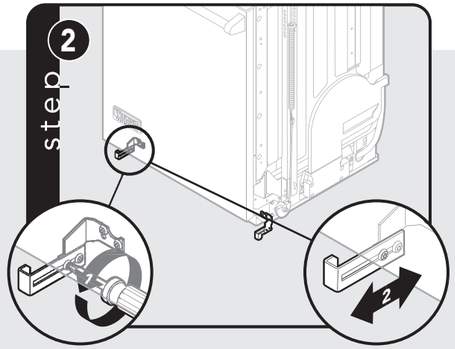
Reconnect cable to hook.

Note: *For custom panel installation, the door may require adjustment to the preload of the counterbalance springs. Follow these steps to adjust the tension.*

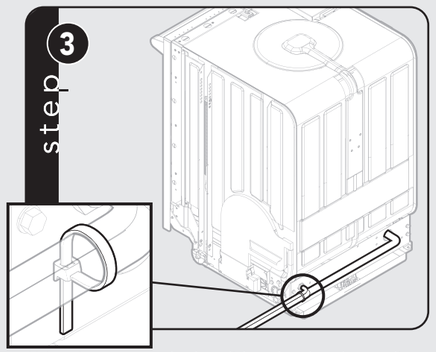
Installation



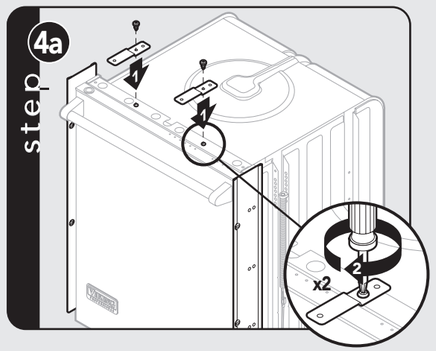
Carefully lay dishwasher on its back and attach the kick plate brackets. Screws for the brackets will already be in the base. ***Note:*** *Be careful not to pinch hoses or power cord beneath dishwasher.*



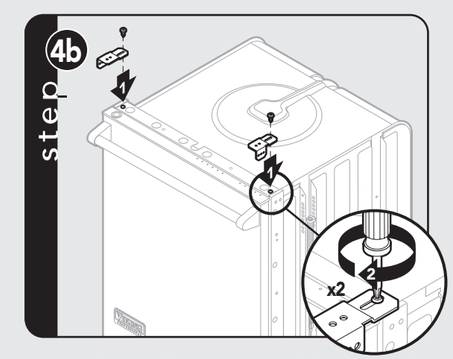
To adjust the depth of the kick plate, loosen screws on the bracket and position in the required depth. Tighten screws and repeat for other side.



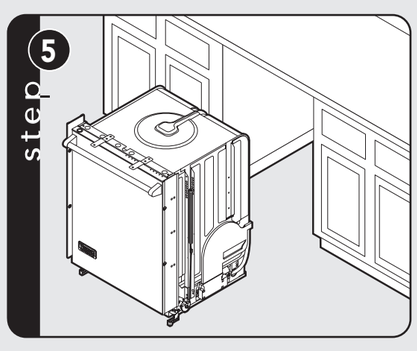
Using tie strap attached to dishwasher, band water line, drain line, and power cord together.



For installation with trim, attach brackets with two screws (1 per bracket).

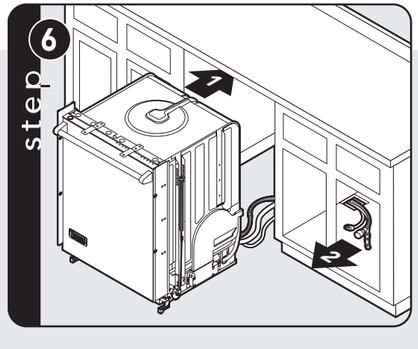


For installation without trim (301 models only), attach brackets with two screws (1 per bracket).



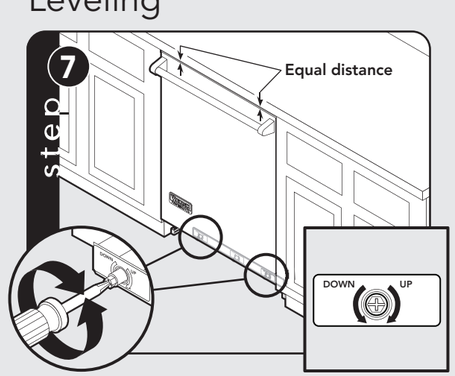
Position unit in front of cutout.

Installation (cont.)

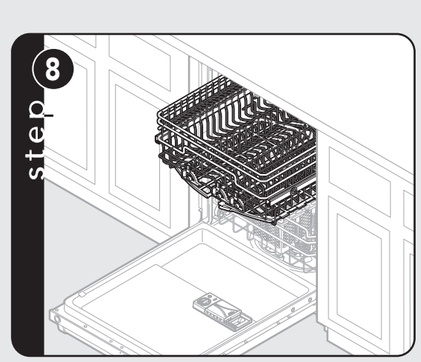


Slide unit into opening; be sure to feed water, electrical and discharge lines into adjacent cabinet.

Leveling

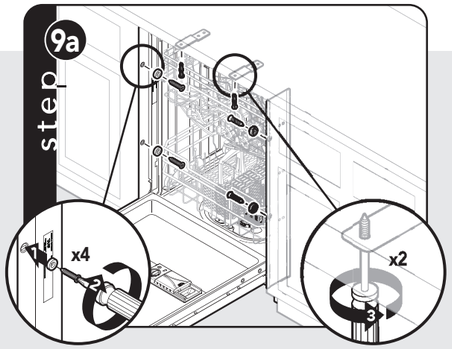


Place a level on handle, then adjust to appropriate height. Left and right adjust side to side and center adjusts front to back.

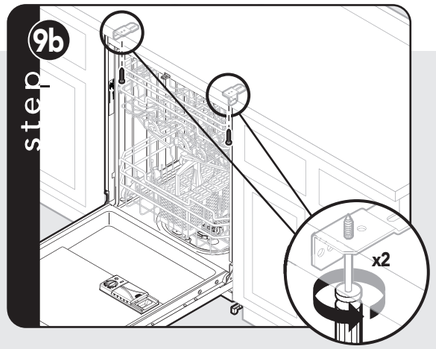


To check level, front to back, pull the top rack half-way out of unit. The rack should remain stationary and not move in or out.
Note: *Leveling is important for optimal performance.*

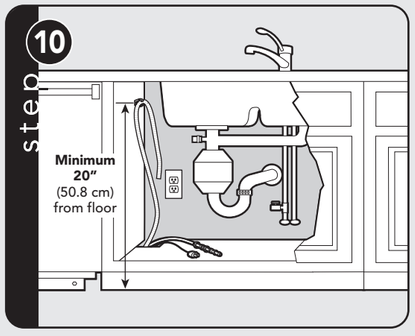
Final Installation



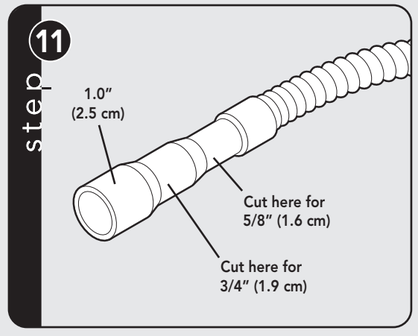
For installation with trim (451 model), secure dishwasher by attaching provided mounting plugs and wood screws through trim panels into cabinets. Attach screws through top brackets into cabinets.



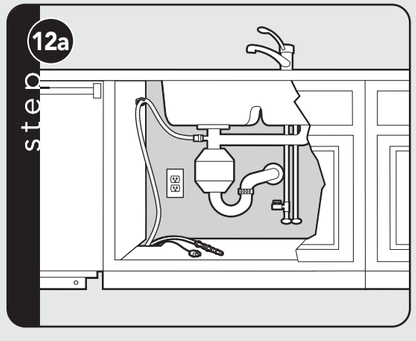
For installation without trim (301 model), secure dishwasher by attaching screws through top brackets into cabinets. ***Note: DO NOT*** use mounting plugs.



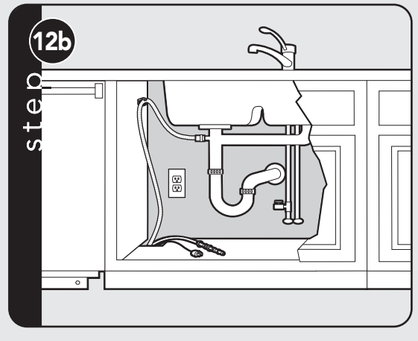
Install High Loop Clip, which is provided, a minimum of 20" (50.8 cm) from the floor. Refer to the Drain section of "*General Information*" for proper installation requirements.



Identify discharge connection size; cut line to correct size and connect. Clamp if necessary.

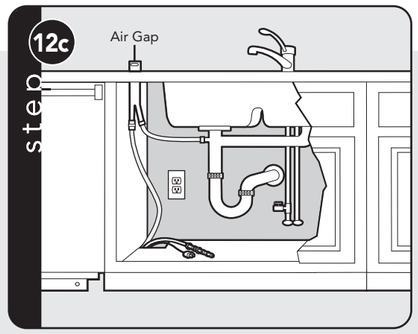


(Discharge with food waste disposer)
Note: *Be sure to remove the knockout or plug from the fitting of the disposer before connecting drain line.*

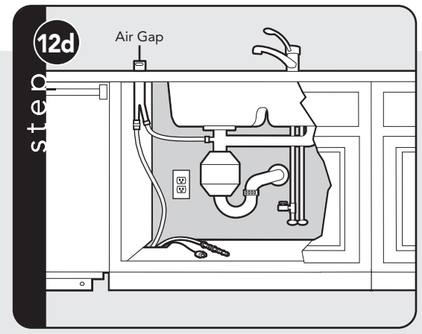


(Standard discharge)

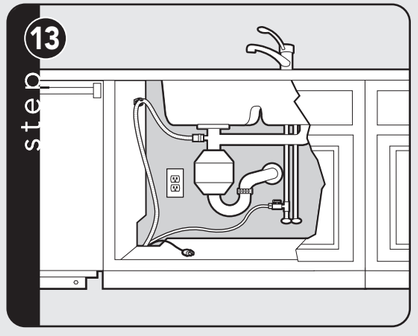
Final Installation (cont.)



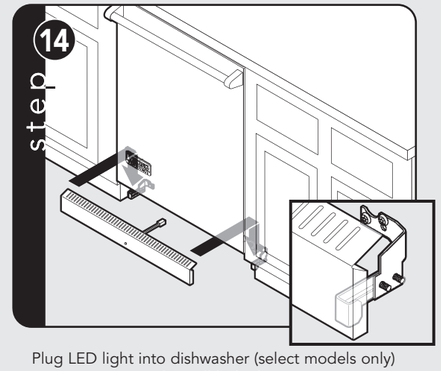
(Discharge with air gap)



(Discharge with food waste disposer and air gap)



Connect water line.



Plug LED light into dishwasher (select models only) and install kick plate.
Note: DO NOT *block the dry air exhausts (rectangular slots on the access panel) with kick plate or base board. Blocking the opening could reduce the dry performance and cause unwanted condensation.*

Performance Checklist

Testing for Leaks

A qualified installer should carry out the following checks:

- ☐ Remove packaging and parts.
- ☐ Turn on the water supply and check for leaks.
- ☐ Turn the power on at breaker/fuse box and test the dishwasher operation by running a rinse and hold cycle. (This should take about 12 minutes.)
- ☐ Turn off the electrical power and check for leaks under the dishwasher.
- ☐ Make sure that no kinks have developed in the drain lines.

Final Preparation

- Some stainless steel parts may have a plastic protective wrap which must be peeled off.

Unit Reset

- If the unit should need to be reset for any reason, push and hold the "START" button for 4 seconds.

Service & Registration

Only authorized replacement parts may be used in performing service on the appliance. Do not repair or replace any part of the appliance unless specifically recommended in the manual. All servicing should be referred to a qualified technician.

Contact Viking Range Corporation, 1-888-VIKING1 (845-4641), for the nearest service parts distributor in your area or write to:

VIKING RANGE CORPORATION
PREFERRED SERVICE
1803 Hwy 82W
Greenwood, Mississippi 38930 USA

The serial number and model number for your dishwasher are located on the identification plate mounted on the bottom left side of the dishwasher door opening.

Record the following information indicated below. You will need it if service is ever required.

Model number _____

Serial number _____

Date of purchase _____

Date installed _____

Dealer's name _____

Address _____

These installation instructions should remain with the dishwasher for future reference.